Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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| In the matter of | ) | |
| | ) | |
| Inquiry Regarding Carrier Current | ) | ET Docket No. 03-104 |
| Systems, including Broadband over | ) | |
| Powerline Systems | ) | |

To: The Commission

# REPLY COMMENTS OF W. J. J. HOGE TO THE COMMENTS OF SOUTHERN LINC, SOUTHERN TELECOM, INC., AND SOUTHERN COMPANY SERVICES, INC. DATED JULY 7, 2003

By: W. J. J. Hoge
20 Ridge Road
Westminster, Maryland 21157

Dated: 12 August, 2003

1. I am a licensed Amateur Radio Operator. My call sign is W3JJH. I received a Bachelor of Engineering degree in Electrical Engineering from Vanderbilt University in 1970. I have been employed in engineering design and management in the broadcast and satellite communications industries and in other areas related to electromagnetic compatibility and interference for over 30 years.

2. The key to the BPL interference issue is found in the last sentence of paragraph 18 of the Commission's Notice of Inquiry: "Each of these authorized services in the spectrum must be protected from harmful interference."

3. In III.A. and III.B of Southern's comments, they propose to operate in the 1.705 to 50 MHz range and assert that they do not believe that specific bands for BPL would be necessary. This is nonsense. I offer my amateur radio station as an example. It is situated at my residence on a 0.4-acre lot at 20 Ridge Road, Westminster, Maryland 21157. There are 4160-V utility lines on three sides of the property. No place on the lot is more than 30 m away from the power lines. If my local utility were to radiate a 30-uV/m signal in the HF spectrum as presently permitted by 15.209 of the Commission's Rules, then the interference would be on the order of 40 to 50 dB (10,000 to 100,000 times) the normal background noise level I currently experience. This would make communication with impossible except with local stations operating at or near the maximum permissible power. BPL WOULD CAUSE SIMILAR DISRUPTIONS TO

OTHER USERS OF THE HF SPECTRUM SUCH AS INTERNATIONAL BROADCASTERS, FEMA, AND THE COAST GUARD.

4. My amateur station is capable of transmitting at an effective radiated power of over 10 kW from a antenna less than 30 m from the power lines. Operating under Part 15, a BPL system would not be protected from interference from my licensed station. However, I wouldn't want to have to explain that to an irate neighbor.

5. It is obvious from an engineering viewpoint that BPL is not compatible with existing licensed services. If BPL is to be deployed, it and licensed services must be protected from each other.

6. One way of establishing this protection might be to give BPL its own spectrum allocation as a primary or secondary user.

7. If BPL is permitted to operated on spectrum shared with licensed services, then BPL operators must be responsible for eliminating interference to licensed services—even if this means discontinuing the BPL operation. Also, BPL operations must be required to accept all interference from licensed services.

8. The Commission asked in its Notice of Inquiry if its Part 15 Rules were adequate. Southern's response was that the methods of measurement of compliance need to be refined. I agree, but I would add that the Commission should reexamine the permissible interference levels allowed from BPL operations. The present levels assume a point source of noise. BPL lines are large, distributed, and efficient radiators. A reduction from 30 uV/m to 300 nV/m for the HF range would be a drastic reduction from the current requirement but would still result in a significant increase in electromagnetic smog.

9. The Commission's goal of improved and expanded Broadband Internet access is definitely in the public interest. However, allowing BPL to cripple existing over-the-air services is not.